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General requirements for IFP and Status of PBN implementation in the MID Region

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Presentation Outline

- **Definition of IFP**
- **General requirements for IFP**
- **Status of implementation**
- **Challenges**

What is IFP?





Instrument Flight Procedure (IFP)

A description of a series of predetermined flight manoeuvres by reference to flight instruments, published by electronic and/or printed means.

A published procedure used by aircraft flying in accordance with the instrument flight rules which is designed to achieve and maintain an acceptable level of safety in operations.





General requirements

- ▶ **Legislations/Regulations**
- ▶ **Design Organization/Office**
- ▶ **Experts Qualifications and Training**
- ▶ **Resources**
- ▶ **Quality Assurance**
 - **Information/data**
 - **Design Process**
 - **Safety Assessment**
 - **Procedures Validation**
 - **Design Publication**
 - *Software validation*

Legislations/Regulations

- ▶ **States shall promulgated regulations as a bases for procedure design in accordance with ICAO PANS-OPS provisions**
- ▶ **State/CAA should carry out all safety oversight related tasks over the service providers, including:**
 - **review and revision of regulations**
 - **training of technical staff**
 - **development of guidance material**
 - **issuance of approvals**
 - **conducting of surveillance**
 - **resolution of identified safety concerns**



Design Organization/Office

- ▶ A design organization/Office should be established equipped with appropriate tools to enable the Designers to carry on their tasks
- ▶ the service provider should ensure that the designs of instrument flight procedure are in accordance with applicable ICAO provisions and the State's Regulations



Designer Qualifications and Training

Training Programme and Training Plans should be developed and appropriately implemented to ensure that:

- ▶ The person designing or amending a flight instrument procedure demonstrates required competency level for flight procedure design.
- ▶ Designers shall acquire and maintain this competency level through training and supervised on-the-job training (OJT).



Resource Requirements

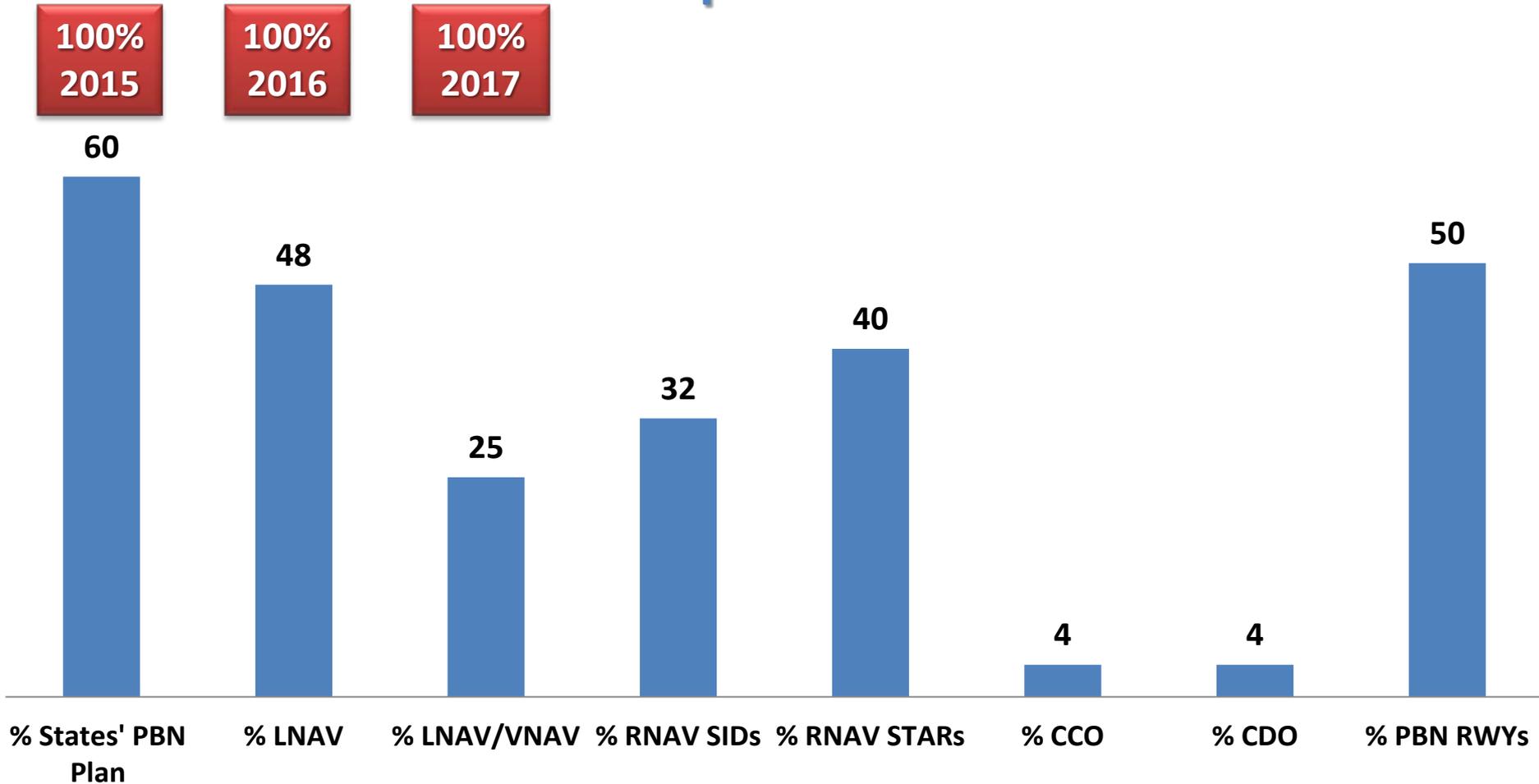
This would include:

- ▶ having available equipment appropriate for the design, design validation, and maintenance of the types of procedures
- ▶ access to relevant and current data including, but not limited to, aeronautical data, land contour data, and obstacle data for the design, design validation, and maintenance of the procedures
- ▶ ready access to documentation that may be necessary for the design, design validation, and maintenance of the types of procedures
- ✓ *the integrity of aeronautical database and aeronautical data used for designing an IFP shall be ensured*
- ✓ *The data used shall be current, traceable, and meets the required level of verifiable accuracy for the design*

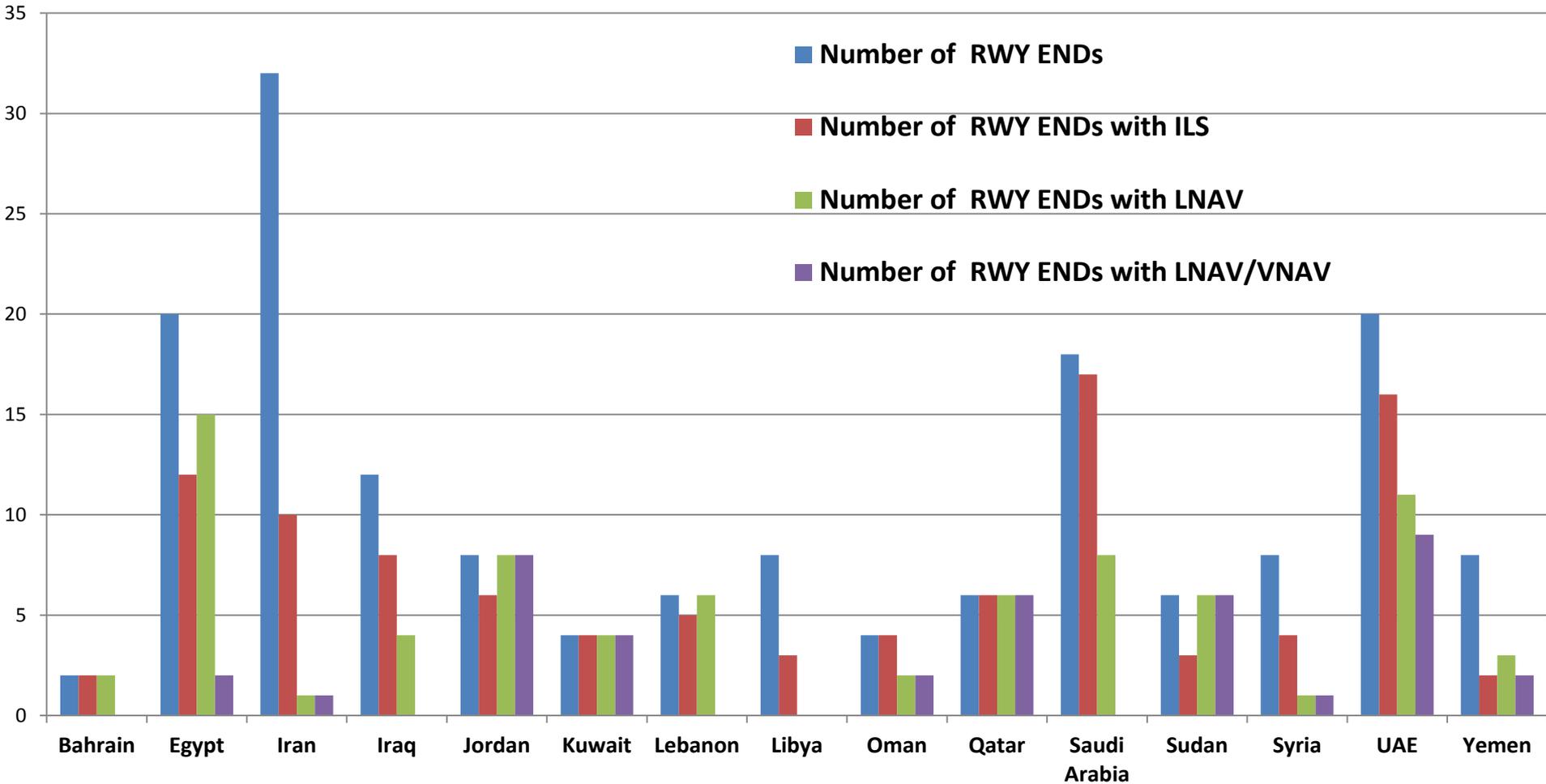
Quality Assurance

- ▶ A quality assurance system should be implemented in accordance with the provisions of ICAO Doc 9906
- ▶ PANS-OPS, Doc 8168 Volume II, Part 1, Section 2, Chapter 4, Quality Assurance refers to the ICAO Doc 9906 and requires that a State take measures to “control” the quality of the processes associated with the construction of instrument flight procedures
- ▶ Instrument flight procedures based on conventional ground-based navigational aids have always demanded a high level of quality control.
- ▶ The implementation of area navigation and associated airborne database navigation systems, however, means that even small errors in data can lead to catastrophic results.
- ▶ This significant change in data quality requirements (accuracy, resolution and integrity) has led to the need for a systemic quality assurance process (often part of a State Safety Management System).
- ▶ Data quality management, procedure designer training, and validation of software are all integral elements of a quality assurance programme.

Status of PBN Implementation in the MID Region as of September 2015

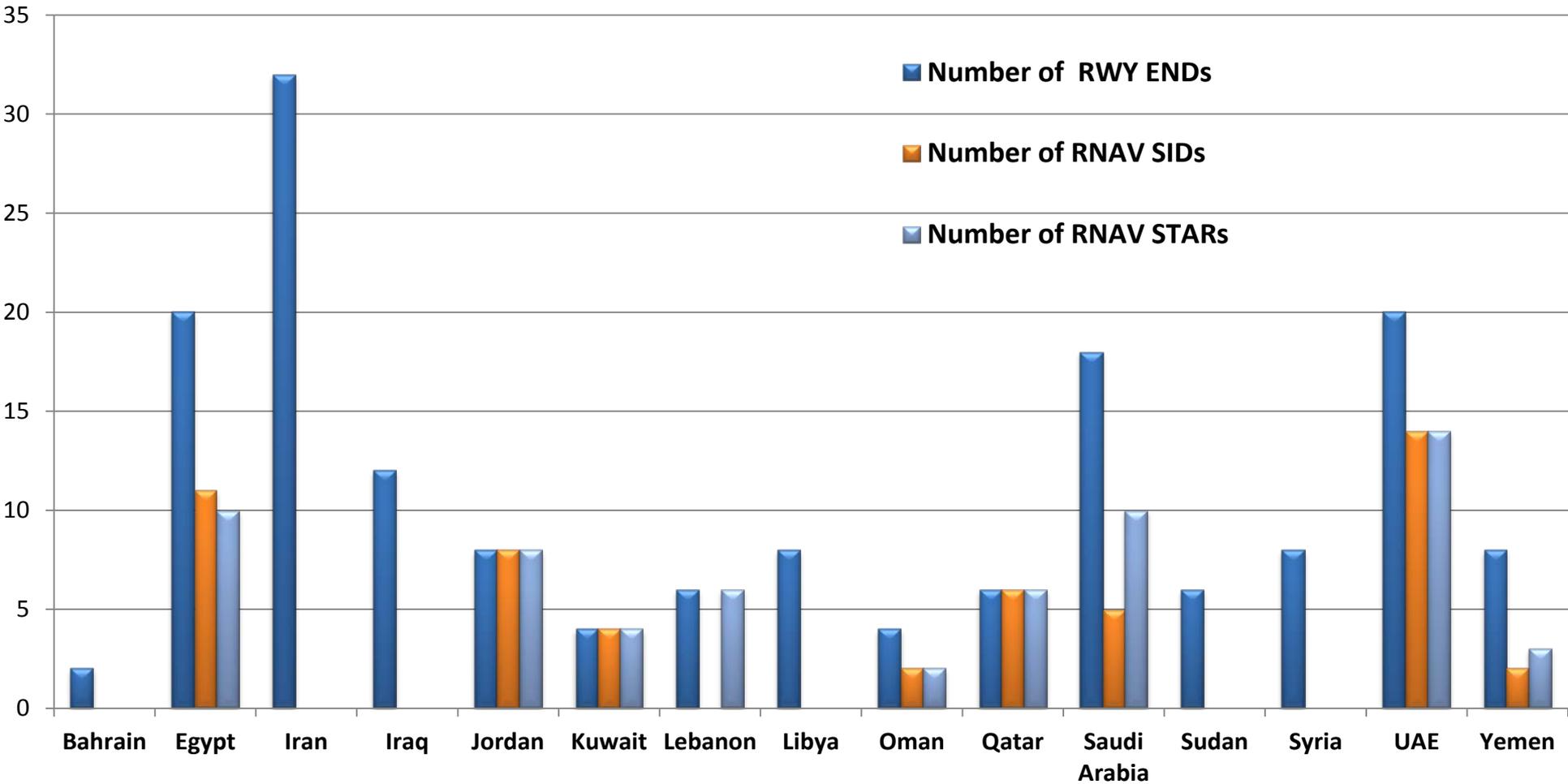


Status of PBN Implementation in the MID Region as of September 2015





Status of PBN Implementation in the MID Region as of September 2015



Challenges

The following challenges have been identified as the main impediments to the advancement of PBN implementation in the Region:

- Shortage of PANS-OPS, Airspace Planners and OPS-approval experts
- Insufficient procedure design work in some States to attain or maintain proficiency
- Lack of airspace and procedure design training: initial, OJT, and/or recurrent
- Lack of capabilities to implement QA
- Lack of regulatory expertise to oversee the process leading to procedure publication
- Need to raise awareness of all stakeholders on PBN advantages and how to achieve an effective implementation
- Unstable political and security situation in some States

Some mitigation measures were also identified such as:

- States were encourage to:
 - ensure the training/recruitment of qualified experts in the fields of FPD, airspace planning, and operations approval
 - work cooperatively
 - request ICAO support for the training and implementation of PBN
 - organize at national level PBN Workshops

The MID FPP would provide the optimum solution and foster the implementation of PBN



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Thank You